THE SILVER INSTITUTE

A WORLDWIDE ASSOCIATION OF MINERS, REFINERS, FABRICATORS AND MANUFACTURERS

INCORPORATED 1971

1026 16TH STREET, N.W., SUITE 101

WASHINGTON, D.C. 20036

MINE PRODUCTION OF SILVER IN 1986 WITH PROJECTIONS FOR 1987 1988 1989 1990

THE SILVER INSTITUTE

WORLD MINE PRODUCTION OF SILVER

1986 - 1990

This report presents the mine production of silver in all of the 57 countries of the world which are mining or expect to mine silver during the 1986 to 1990 period. Countries are separated into Free World Countries and Communist Countries, who are now participating more in the international movement of silver.

The Free World Countries are divided into three sections: those which produced more than twenty million troy ounces in 1986; those which produced one million to twenty million troy ounces; and those which produced less than one million troy ounces.

In all sections, figures for the countries are arranged in the order of size of mine production of silver in 1986. For each country, actual production is given, as well as projected production for each of the years 1987, 1988, 1989 and 1990. Amounts are shown in millions of troy ounces for each country and group of countries, with metric ton equivalents for each group of countries.

The figures presented here refer to mine production of silver on an "accountable" basis, indicating the amount of silver which is credited to the mining enterprise. This study was made with the participation of 235 mining entities, who supplied The Silver Institute with their reports and projections.

The projections are the totals of many individual companies' plans for their mine production of silver in each of the four ensuing years. Increases and decreases from these plans in individual mines and countries often balance each other. However, there is the fact that earthquakes, floods, accidents, strikes or unexpected declines in market prices will cause the actual production to be less than the projections.

The world mine production of silver in 1986 was 2.6% greater than had been projected one year ago; 1.1% greater than had been projected two years ago; and 1% less than had been projected three years ago.

An additional analysis shows the production and the percent of world total for each of the seven largest producing countries, and for the remaining 50 countries, indicating the considerable changes in their shares of production over the years 1986 to 1990.

Appreciation is expressed for the extraordinary cooperation of the mining and related enterprises which provided the information and projections used in this report. Their names are listed alphabetically by country.

October 1987

MINE PRODUCTION OF SILVER
On Accountable Basis
In Millions of Troy Ounces

FREE WORLD COUNTRIES

Countries Producing More Than 20 Million Troy Ounces in 1986:	Actual 1986	Projected 1987	1988	1989	1990
Mexico	74.0	77.1	78.2	79.4	78.6
Peru	59.4	62.5	63.5	64.0	64.0
Canada	47.0	49.4	48.3	48.4	48.2
United States	34.2	43.2	55.7	64.9	70.7
Australia	32.4	36.4	35.1	39.0	37.0
Subtotal	247.0	268.6	280.8	295.7	298.5
Equivalent Metric Tons	7,682.7	8,354.6	8,734.1	9,197.5	9,284.6
Change from Previous Year		+9%	+5%	+5%	+1%

Countries Producing 1 to 20 Million Troy Ounces in 1986:	Actual 1986	Projected 1987	1988	1989	1990
Chile	16.1	16.2	16.8	16.7	17.0
Japan	11.3	10.4	11.2	11.2	11.2
Sweden	7.4	8.3	8.1	8.3	8.5
South Africa	7.1	6.9	7.0	7.0	7.0
Yugoslavia	5.7	5.7	5.7	5.7	5.7
Spain	5.6	8.4	7.9	8.7	8.7
Bolivia	3.1	4.1	5.0	7.7	7.7
Namibia	3.1	3.3	3.3	3.3	3.3
Brazil	2.6	2.6	2.6	2.6	2.6
South Korea	2.4	2.4	2.4	2.4	2.4
Argentina	2.2	2.0	1.9	1.9	1.9
Papua New Guinea	1.8	2.0	1.9	1.9	1.9
Italy	1.8	1.8	1.8	1.8	1.8
Honduras	1.7	0.0	0.0	0.0	0.0
Morocco	1.7	1.6	1.5	1.5	1.5
Philippines	1.7	1.6	1.8	1.8	1.7
Greece	1.7	1.7	1.7	1.7	1.7
Zaire	1.5	1.5	1.5	1.5	1.5
Dominican Republic	1.3	0.9	0.9	0.8	0.2
Indonesia	1.3	1.3	1.3	1.4	1.5
Finland	1.2	1.2	1.2	1.2	0.8
India	1.1	1.1	1.1	1.1	1.1
Subtotal	83.4	85.0	86.6	90.2	89.7
Equivalent Metric Tons	2,594.1	2,643.9	2,693.6	2,805.6	2,790.0
Change from Previous Year		+2%	+2%	+4%	-1%

Countries Producing Less Than 1 Million Troy Ounces in 1986:	Actual 1986	Projected 1987	1988	1989	1990
German Federal Republic	0.88	0.97	0.47	0.00	0.00
Zambia	0.86	0.84	0.84	0.84	0.84
France	0.83	0.73	0.74	0.73	0.71
Zimbabwe	0.80	0.80	0.80	0.80	0.80
Iran	0.80	0.80	0.80	0.80	0.80
Malaysia	0.45	0.45	0.45	0.45	0.45
Burma	0.44	0.44	0.44	0.44	0.44
Denmark (Greenland)	0.39	0.39	0.39	0.38	0.38
Ireland	0.26	0.26	0.26	0.26	0.26
Turkey	0.23	0.23	0.23	0.23	0.23
Colombia	0.19	0.19	0.19	0.19	0.19
Algeria	0.12	0.12	0.12	0.12	0.12
Great Britain	0.05	0.05	0.05	0.05	0.05
Oman	0.05	0.05	0.05	0.05	0.05
Taiwan	0.04	0.04	0.04	0.04	0.04
Nicaragua	0.03	0.03	0.03	0.03	0.03
Tunisia	0.03	0.03	0.03	0.03	0.03
Portugal	0.02	0.02	0.02	0.02	0.02
Fiji	0.02	0.02	0.02	0.02	0.02
Ghana	0.02	0.02	0.02	0.03	0.03
Ecuador	0.00	0.00	0.57	0.59	0.62
New Zealand	0.00	0.00	0.10	0.23	0.30
Subtotal	6.51	6.48	6.66	6.33	6.41
Equivalent Metric Tons	202.49	201.56	207.15	196.89	199.38
FREE WORLD COUNTRIES					
TOTAL	336.9	360.1	374.1	392.2	394.6
Equivalent Metric Tons	10,479.0	11,200.6	11,636.1	12,199.1	12,273.7
Change from Previous Year		+7%	+4%	+5%	+6%
COMMUNIST COUNTRIES					
Soviet Union	51.4	54.6	54.6	54.0	54.0
Poland	26.7	25.4	25.4	25.1	25.1
North Korea	9.5	9.5	9.5	9.5	9.5
China People's Republic	3.2	3.2	3.2	3.2	3.2
German Democratic Republic	1.3	1.3	1.3	1.3	1.3
Czechoslovakia	1.1	1.1	1.1	1.1	1.1
Bulgaria	0.8	0.8	0.8	0.8	0.8
Romania	0.7	0.7	0.7	0.7	0.7
COMMUNIST COUNTRIES					
TOTAL	94.7	96.6	96.6	95.7	95.7
Equivalent Metric Tons	2,945.6	3,004.7	3,004.7	2,976.7	2,976.7
Change from Previous Year		+2%		-1%	
WORLD TOTAL	431.6	456.7	470.7	487.9	490.3
Equivalent Metric Tons	13,424.6	14,205.3	14,640.7	15,175.7	15,250.4
Change from Previous Year		+6%	+3%	+4%	+5%

ADDITIONAL ANALYSIS

COUNTRY	Actual	Projected			
	1986	1987	1988	1989	1990
Mexico					
Million Troy Ounces	74.0	77.1	78.2	79.4	78.6
Percent of World Total	17.1%	16.9%	16.6%	16.3%	16.0%
Peru					
Million Troy Ounces	59.4	62.5	63.5	64.0	64.0
Percent of World Total	13.8%	13.7%	13.5%	13.1%	13.1%
Soviet Union					
Million Troy Ounces	51.4	54.6	54.6	54.0	54.0
Percent of World Total	11.9%	12.0%	11.6%	11.1%	11.0%
Canada					
Million Troy Ounces	47.0	49.4	48.3	48.4	48.2
Percent of World Total	10.9%	10.8%	10.3%	9.9%	9.8%
United States					
Million Troy Ounces	34.2	43.2	55.7	64.9	70.7
Percent of World Total	7.9%	9.5%	11.8%	13.3%	14.4%
Australia					
Million Troy Ounces	32.4	36.4	35.1	39.0	37.0
Percent of World Total	7.5%	8.0%	7.5%	8.0%	7.5%
Poland					
Million Troy Ounces	26.7	25.4	25.4	25.1	25.1
Percent of World Total	6.2%	5.6%	5.4%	5.1%	5.1%
All 50 Other Countries	106.5	108.1	109.9	113.1	112.7
Million Troy Ounces	24.7%	23.7%	23.3%	23.2%	23.0%
Percent of World Total					

CONTRIBUTORS OF INFORMATION

ON

MINE PRODUCTION OF SILVER

IN 1986 WITH PROJECTIONS FOR 1987 - 1988 - 1989 - 1990

ARGENTINA

Compania Minera Aquilar S.A., Buenos Aires
Compania Minera Pirquitas Pichetti S.A., Buenos Aires
Ministerio de Economia, Buenos Aires

AUSTRALIA

Aberfoyle Resources, Melbourne, Victoria
A M & S Mining Limited, North Sydney, N.S.W.
Battle Mountain (Aust) Inc., Carrajong, Queensland
Bureau of Mineral Resources, Geology & Geophysics, Canberra, A.C.T.
Cobar Mines Pty. Limited, Cobar, N.S.W.
Dallhold Resource Management Pty. Ltd., Perth, Western Australia
Electrolytic Zinc Company of A/asia Limited, Melbourne, Victoria
Homestake Australia Limited, Norwood, South Australia
Kalgoorlie Mining Associates, Fimiston, Western Australia
M.I.M. Holdings Limited, Brisbane, Queensland
Minerals, Mining & Metallurgy Ltd., Adelaide, South Australia
Mount Lyell Mining & Railway Company Ltd., Queenstown, Tasmania
Mount Morgan Limited, Mount Morgan, Queensland
North Broken Hill Holdings, Melbourne, Victoria
North Kalgurli Mines Ltd., Kalgoorlie, Western Australia
Poseidon Limited, Adelaide, South Australia
Sons of Gwalia N.L., West Perth, Western Australia

BELGIUM

Compagnie Royale Asturienne des Mines, Bruxelles
Societe des Mines et Fonderies de Zinc de la Vieille-Montagne, S.A., Angleur

BOLIVIA

Asociacion Nacional de Mineros Medianos, La Paz

BOTSWANA

Department of Mines, Gaborone
Golden Sands Pty. Limited, Francistown
Morex (Botswana) Pty. Limited, Francistown
Shamrock (Morengo) Pty. Limited, Francistown

BRAZIL

Caraiba Metais, S.A., Bahia
Departmento Nacional da Producao Mineral, Brasilia, D.F.
Mineracao Morro Velho, S.A., Nova Lima
Plumbum S.A., Industria Brasileira de Mineracao, Nova Lima

CANADA

Abcourt Mines Inc., Val d'Or, Quebec
Avino Mines and Resources Limited, Vancouver, British Columbia
BP Canada Incorporated, Toronto, Ontario
Cambior Inc., Val d'Or, Quebec
Citadel Gold Mines Inc., Toronto, Ontario
Cominco Limited, Vancouver, British Columbia
Department of Energy, Mines & Resources, Ottawa, Ontario
Dickenson Mines Limited, Toronto, Ontario
Dome Mines Limited, Toronto, Ontario
Echo Bay Mines Limited, Edmonton, Alberta
Equity Silver Mines Limited, Vancouver, British Columbia
Falconbridge Limited, Toronto, Ontario
Giant Yellowknife Mines Limited, Timmins, Ontario
Hughes Lang Group, Vancouver, British Columbia
Interaction Resources Limited, Vancouver, British Columbia
Kerr Addison Mines Limited, Toronto, Ontario
Kidd Creek Mines Limited, Toronto, Ontario
Lacana Mining Corporation, Toronto, Ontario
Mattabi Mines Limited, Toronto, Ontario
Muscocho Exploration Limited, Toronto, Ontario
Noranda Minerals Inc., Toronto, Ontario
Noranda Sales Corporation Limited, Toronto, Ontario
Northern Dynasty Exploration, Vancouver, British Columbia
Northgate Exploration Limited, Toronto, Ontario
Orofino Resources Limited, Toronto, Ontario
Placer Development Limited, Vancouver, British Columbia
Renabie Gold Mines Limited, Missanabie, Ontario
Renzy Mines Limited, North York, Ontario
Saskatchewan Mining Development Corp., Saskatoon, Saskatchewan
Star Lake Gold Mine, La Ronge, Saskatchewan
Teck Corporation, Vancouver, British Columbia
Terra Mines Limited, Edmonton, Alberta
United Keno Hill Mines Limited, Toronto, Ontario
Utah Mines Limited, Port Hardy, British Columbia
Westmin Resources Limited, Vancouver, British Columbia

CHILE

Cia. Minera Flomax, Santiago
Compania Minera Rio Huasco, Santiago
Compania Minera Vaquillas, Taltal
Empresa Minera de Mantos Blancos, S.A., Antofagasta
Minera Brass, S.A., Antofagasta
Servicio Nacional de Geologia y Mineria, Santiago

DENMARK (GREENLAND)

Greenex A/S, Copenhagen

DOMINICAN REPUBLIC

Rosario Dominicana, S.A., Santo Domingo

ECUADOR

Instituto Ecuatoriana de Minera, Quito

FRANCE

Societe Miniere et Metallurgique de Penarroya, Paris

GERMAN FEDERAL REPUBLIC

Preussag AG Metall, Goslar

GHANA

Ashanti Goldfields, Accra

INDIA

Hutti Gold Mines Company Limited, Karnataka
Indian Bureau of Mines, Ministry of Steel and Mines, Nagpur

IRELAND

Geological Survey of Ireland, Dublin

JAPAN

Dowa Mining Company Limited, Tokyo
Japan Mining Industry Association, Tokyo
Mitsubishi Metal Corporation, Tokyo
Mitsui Mining & Smelting Co., Ltd., Tokyo
Toyoha Mines Company Limited, Hokkaido

MEXICO

Camara Minera de Mexico, Mexico, D.F.
Cia. de Real del Monte y Pachuca, S.A., Pachuca, Hidalgo
Cia. Fresnillo, S.A. de C.V., Mexico, D.F.

MEXICO (Continued)

Frisco, S.A. de C.V., Mexico, D.F.
Grucat S.A. de C.V., Mexico, D.F.
Grupo Industrial Minera Mexico, S.A. de C.V., Mexico, D.F.
Industrias Luismin, S.A. de C.V., Mexico, D.F.
Met-Mex Penoles, S.A. de C.V., Torreon, Coahuila
Mexican Chamber of Mines, Mexico, D.F.
Minas Huruapa, S.A., Mexico, D.F.
Minera Guadalupe, S.A. de C.V., Mexico, D.F.
Minera Lampazos, S.A. de C.V., Mexico, D.F.
Minera Real De Angeles S.A. de C.V., Mexico, D.F.
Minera San Francis-Co Deloro, S.A. de C.V., Mexico, D.F.
Minera Victoria Eugenia, S.A. de C.V., Mexico, D.F.
Minerales de Bolanos, S.A. de C. V., Guadalajara, Jalisco
Rosario Mexico, S.A. de C.V., Mexico, D.F.
Servicios Industriales Penoles, S.A. de C.V., Mexico, D.F.

MOROCCO

Societe Miniere du Djebel Aouam, Casablanca

NAMIBIA

Tsumeb Corporation Limited, Tsumeb

NEW ZEALAND

Waihi Gold Company, Waihi

PAPUA NEW GUINEA

Bougainville Copper Limited, Bougainville
Ok Tedi Mining Limited, Panguana

PERU

Cia. de Minas Buenaventura, S.A., Lima
Corporacion Minera Nor Peru S.A., Lima
Empresa Minera del Centro del Peru (CENTROMIN PERU), Lima
Minas de Arcata, S.A., Lima
Minera Raura, S.A., Lima
Sociedad Nacional de Mineria y Petroleo, Lima
Southern Peru Copper Corporation, Lima

PHILIPPINES

Amacan Copper Project, Makati, Metro Manila
Apex Mining Company, Inc., Pasig, Metro Manila
Atlas Consolidated Mining & Development Corp., Makati, Metro Manila
Benguet Corporation, Mandaluyong, Metro Manila
Benguet Exploration, Inc., Makati, Metro Manila
Bureau of Mines & Geo-Sciences, Ministry of Natural Resources, Ermita, Manila
Cebu Copper Operations, Toledo City, Cebu
Dizon Copper-Gold Operation, Mandaluyong, Metro Manila
Itogon-Suyoc Mines Incorporated, Makati, Metro Manila
Lepanto Consolidated Mining Company, Makati, Metro Manila
Manila Mining Corporation, Makati, Metro Manila
Marcopper Mining Corporation, Makati, Metro Manila
Masbate Gold Operations, Aroroy, Masbate
Philex Mining Corporation, Pasig, Metro Manila
Siana Gold Project, Pasig, Metro Manila
Surigao Consolidated Mining Co., Ltd., Pasig, Metro Manila

PORTUGAL

Director General of Geology and Mines, Lisbon

SOUTH AFRICA

Afrikander Lease Limited, Johannesburg
Balmoral Gold Mining Co., Limited, Johannesburg
Barberton Mines Limited, Johannesburg
Blyvooruitzicht Gold Mining Co., Limited, Johannesburg
Bosveld Mines Pty. Limited, Johannesburg
Bracken Mines Limited, Johannesburg
Buffelsfontein Gold Mining Co., Limited, Johannesburg
Central Rand Goldfield, Johannesburg
Centurion Mining Company Pty., Johannesburg
Chamber of Mines of South Africa, Johannesburg
Connatt Goudmync, Johannesburg
Consolidated Modderfontein Mines Limited, Johannesburg
Deelkraal Gold Mining Co., Limited, Johannesburg
Doornfontein Gold Mining Co., Limited, Johannesburg
Driefontein Consolidated Limited, Johannesburg
Durban Roodepoort Deep Limited, Johannesburg
East Rand Goldfield, Johannesburg
East Rand Proprietary Mines Limited, Johannesburg
Eastern Transvaal Consolidated Mines Ltd., Johannesburg
Egoli Consolidated Mines, Johannesburg
Elandsrand Gold Mining Co., Limited, Johannesburg
Evander Goldfield, Johannesburg
Free State Consolidated Geduld Mines Limited, Johannesburg
Goedehoop Mining Company, Johannesburg
Grootvlei Proprietary Mines Limited, Johannesburg
Harmony Gold Mining Company Limited, Johannesburg
Hartebeestfontein Gold Mining Co., Limited, Johannesburg

SOUTH AFRICA (Continued)

Kinross Mines Limited, Johannesburg
Klerksdorp Goldfield, Johannesburg
Kloof Gold Mining Co., Limited, Johannesburg
Leslie Gold Mines Limited, Johannesburg
Libanon Gold Mining Co., Limited, Johannesburg
Loraine Gold Mines Limited, Johannesburg
Malati Gold Mine, Johannesburg
Manville Gold Mine, Johannesburg
Marievale Consolidated Mines Limited, Johannesburg
Minador Gold Mining Co., Ltd., Johannesburg
Modder Bee Mine, Johannesburg
Nigel Gold Mining Company, Johannesburg
Orange Free State Goldfield, Johannesburg
Overseas Mineral Distribution Corp., Ltd., Johannesburg
President Brand Gold Mining Co., Ltd., Johannesburg
President Steyn Gold Mining Co., Ltd., Johannesburg
Primrose Gold Mining Co., Johannesburg
Randfontein Est. Gold Mining Co., Limited, Johannesburg
Rietfontein Mine, Johannesburg
Sabie Nook Gold Mine, Johannesburg
St. Helena Gold Mines Limited, Johannesburg
South Roodepoort Main Reef Areas Limited, Johannesburg
Stanhope Gold Mining Co., Limited, Johannesburg
Stilfontein Gold Mining Co., Limited, Johannesburg
Unisel Gold Mines Limited, Johannesburg
Vaal Reefs Exploration & Mining Co., Limited, Johannesburg
Venterspost Gold Mining Co., Limited, Johannesburg
West Rand Consolidated Mines Limited, Johannesburg
Western Areas Gold Mining Co., Limited, Johannesburg
Western Deep Levels Limited, Johannesburg
Western Holdings Limited Complex, Johannesburg
West Wit Line Goldfield, Johannesburg
Winkelhaak Mines Limited, Johannesburg
Witwatersrand Nigel Limited, Johannesburg
Witwatersrand Triad Gold Mines, Johannesburg

SPAIN

Rio Tinto Minera, S.A., Madrid

SWAZILAND

Geology & Mines Department, Mbabawe

SWEDEN

Boliden Mineral AB, Boliden

TAIWAN

Taiwan Power Company, Taipei

UNITED STATES

Amselco Minerals, Inc., Denver, Colorado
ASARCO Incorporated, New York, New York
Battle Mountain Gold Company, Houston, Texas
Callahan Mining Corporation, Phoenix, Arizona
Camp Bird Mine, Ouray, Colorado
Clayton Silver Mines, Inc., Wallace, Idaho
Coeur d'Alene Mines Corporation, Coeur d'Alene, Idaho
Cominco American Inc., Spokane, Washington
Consolidated Silver Corporation, Coeur d'Alene, Idaho
Copper Range Company, White Pine, Michigan
Cortez Gold Mines, Cortez, Nevada
Crescent Silver Mines, Inc., Kellogg, Idaho
FMC Corporation, Reno, Nevada
Freeport Indonesia, Inc., New Orleans, Louisiana
Golden Sunlight Mines, Inc., Whitehall, Montana
Hecla Mining Company, Coeur d'Alene, Idaho
Homestake Mining Company, San Francisco, California
Inspiration Consolidated Copper Co., Scottsdale, Arizona
Intermountain Exploration Company, Boulder City, Nevada
Kennecott Corporation, Salt Lake City, Utah
Little Squaw Gold Mining Co., Spokane, Washington
Magma Copper Company, Miami, Arizona
Nerco Minerals Company, Fairbanks, Alaska
Newmont Mining Corporation, New York, New York
Pegasus Gold Incorporated, Spokane, Washington
Phelps Dodge Refining Corporation, El Paso, Texas
Pinto Valley Copper Corporation, Miami, Arizona
Rosario Resources Corporation, Greenwich, Connecticut
Round Mountain Gold Corporation, Round Mountain, Nevada
St. Cloud Mining Co., Truth or Consequences, New Mexico
St. Joe Minerals Corporation, Clayton, Missouri
Sunshine Mining Company, Boise, Idaho
United Mining Corporation, Reno, Nevada
United States Bureau of Mines, Washington, D.C.

ZAMBIA

Central Statistical Office, Lusaka
Zambia Consolidated Copper Mines Limited, Kabwe